

**Skill Set 22 –Before and After (Ratio)**

The ratio of \$1 coins to 50 cents coins in Paul's piggy bank was 8:3. After Paul added an equal number of \$1 coins and 50 cents coins into the piggy bank, the ratio of \$1 coins to 50 cents coins became 2:1. There were 150 coins in Paul's piggy bank in the end. How many \$1 coins were there in his piggy bank at first?

***Since an equal number of \$1 coins and 50 cents coins were added, the difference in the number of coins between \$1 coins and 50 cents coins should remain unchanged.***

**Before:**

\$1 : 50 cents coins  
8 : 3 (Difference of 5 units)

**After:**

\$1 : 50 cents coins  
2 : 1 (Difference of 1 unit)  
x 5      x 5  
10 : 5 (Difference of 5 units)

$$10 + 5 = 15 \text{ units}$$

$$15 \text{ units} = 150 \text{ coins}$$

$$1 \text{ unit} = 150 \div 15 = 10$$

$$8 \text{ units} = 10 \times 8 = \mathbf{80}$$

There were **80** \$1 coins in the piggy bank at first.